

Fig.1 (Prior Art)

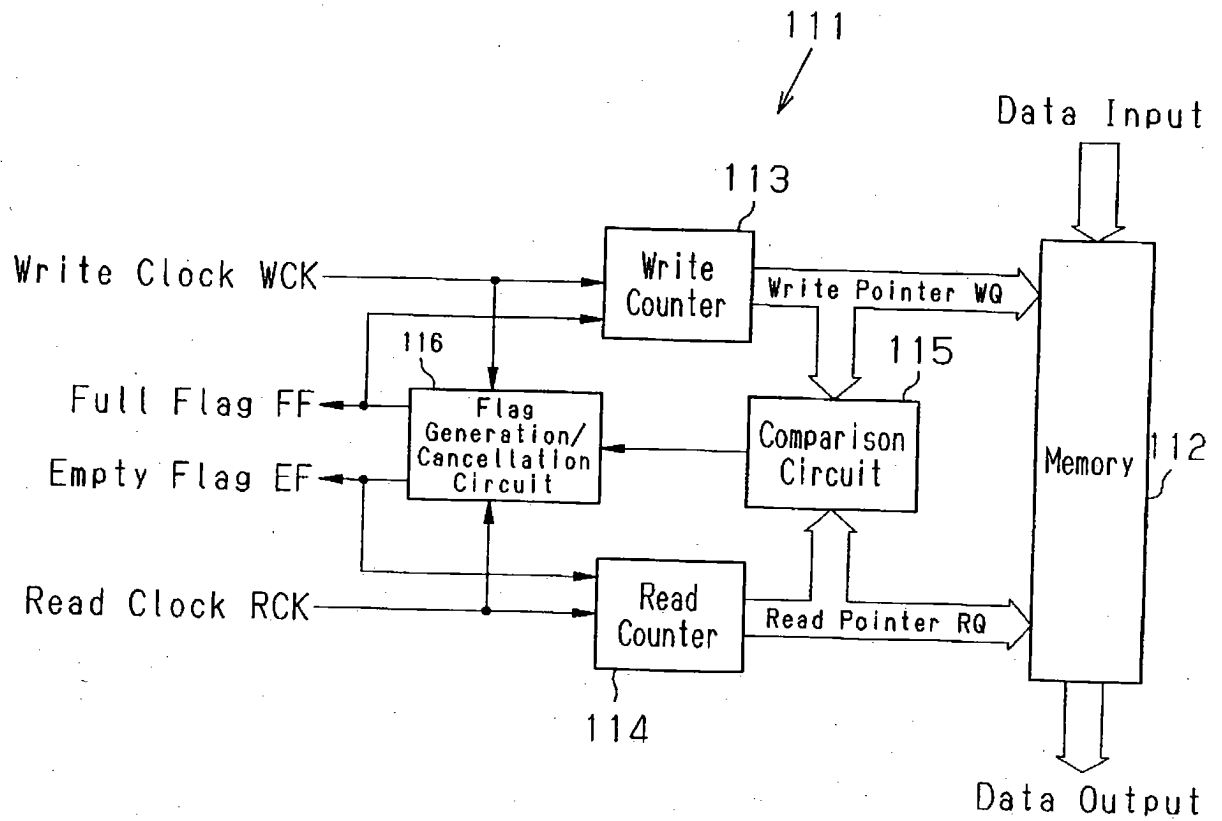


Fig.2

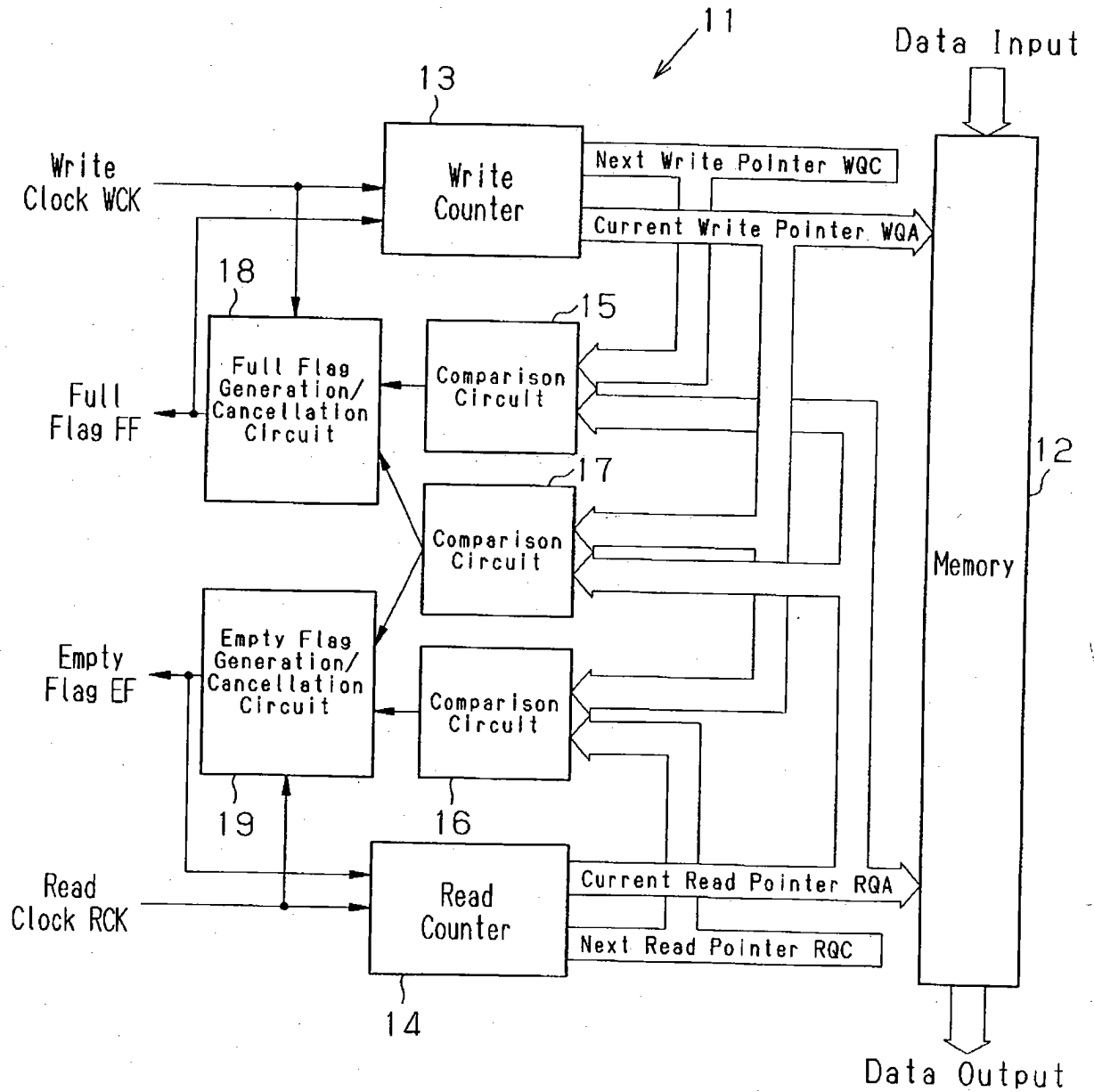


Fig.3

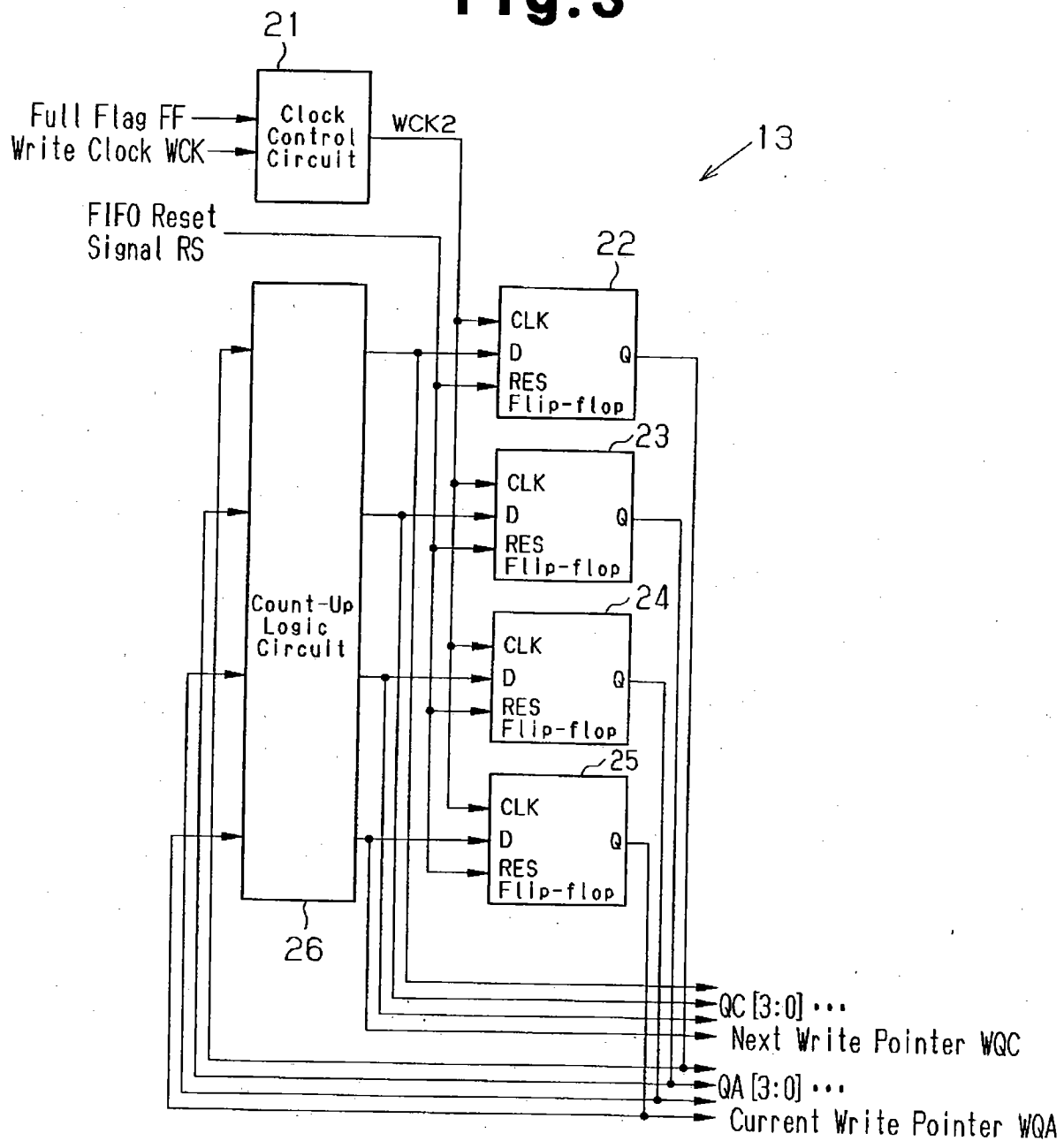


Fig.4

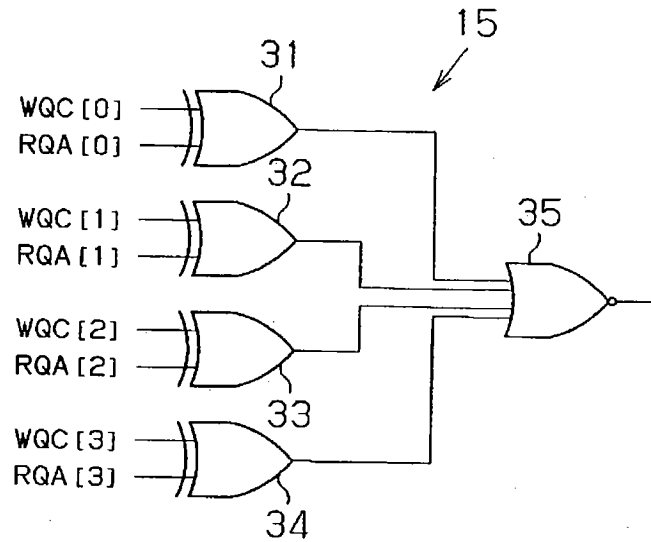


Fig.5

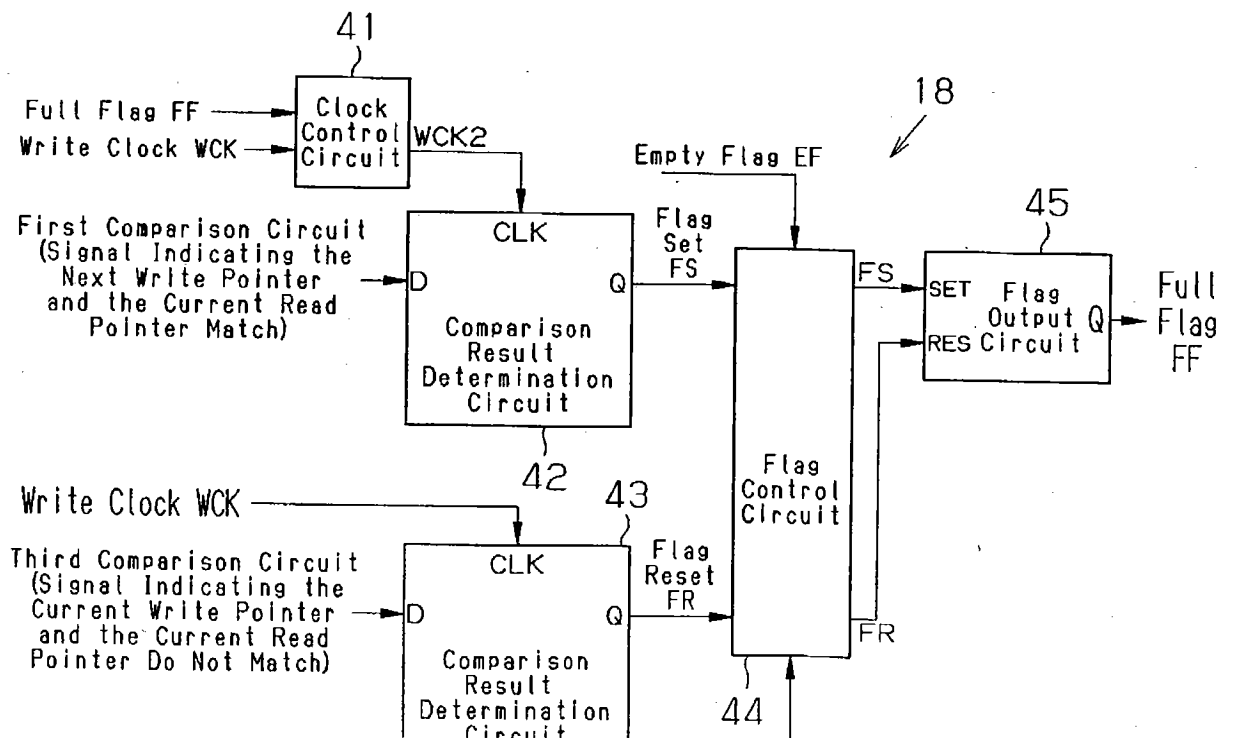


Fig.6

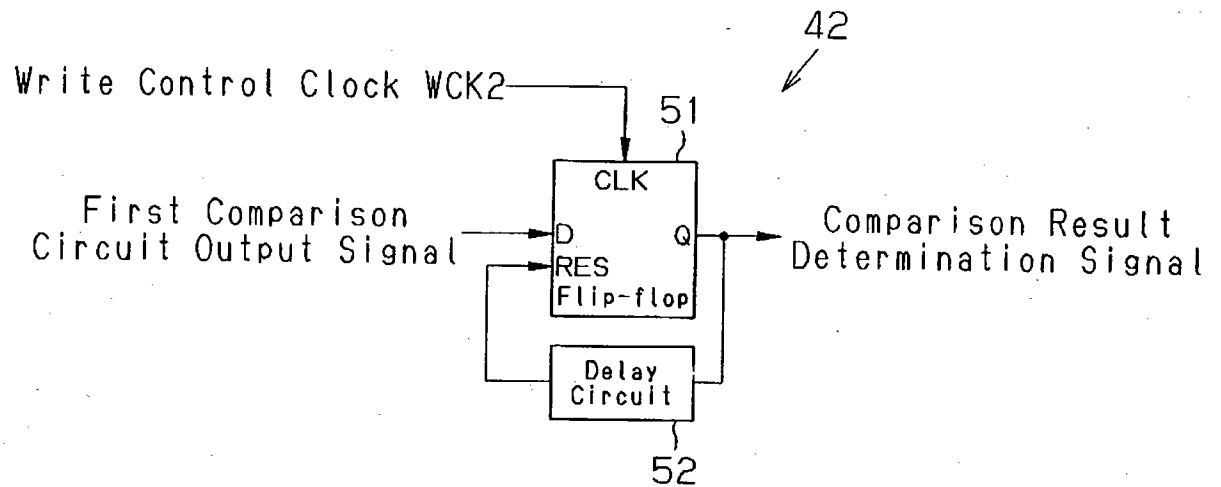


Fig.7

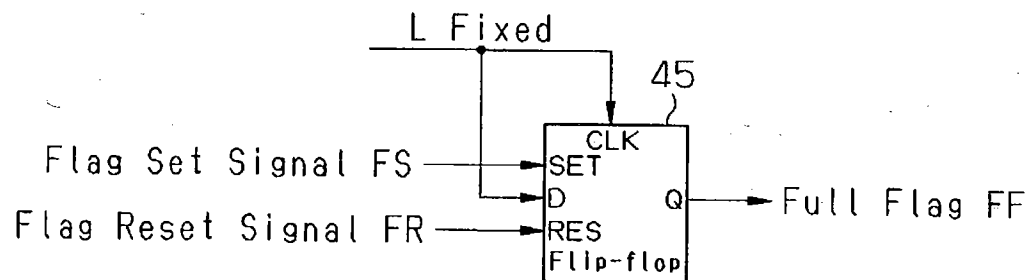


Fig.8

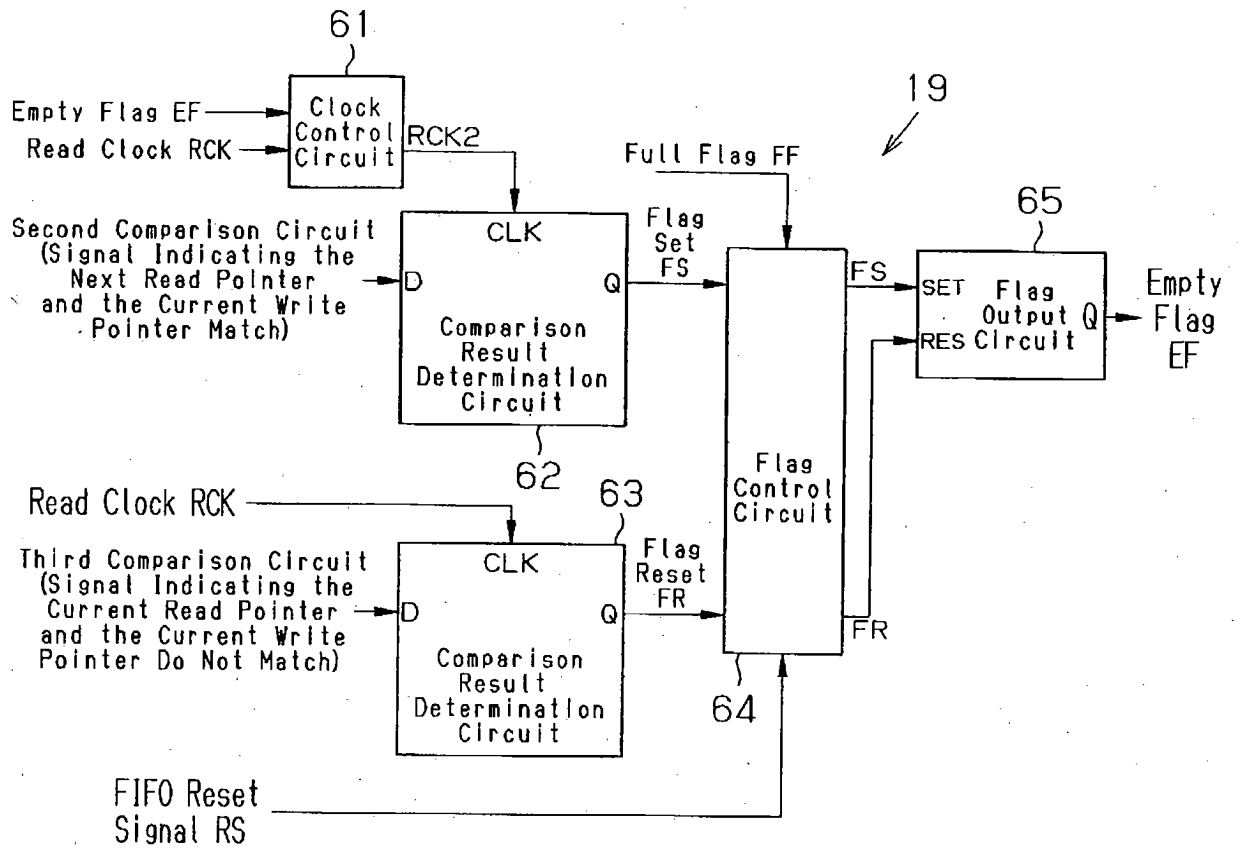


Fig.9

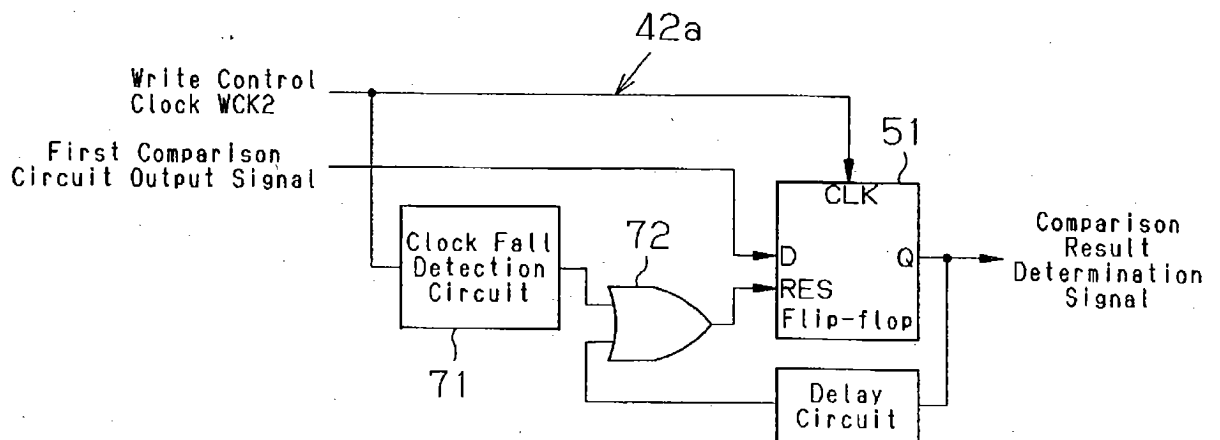
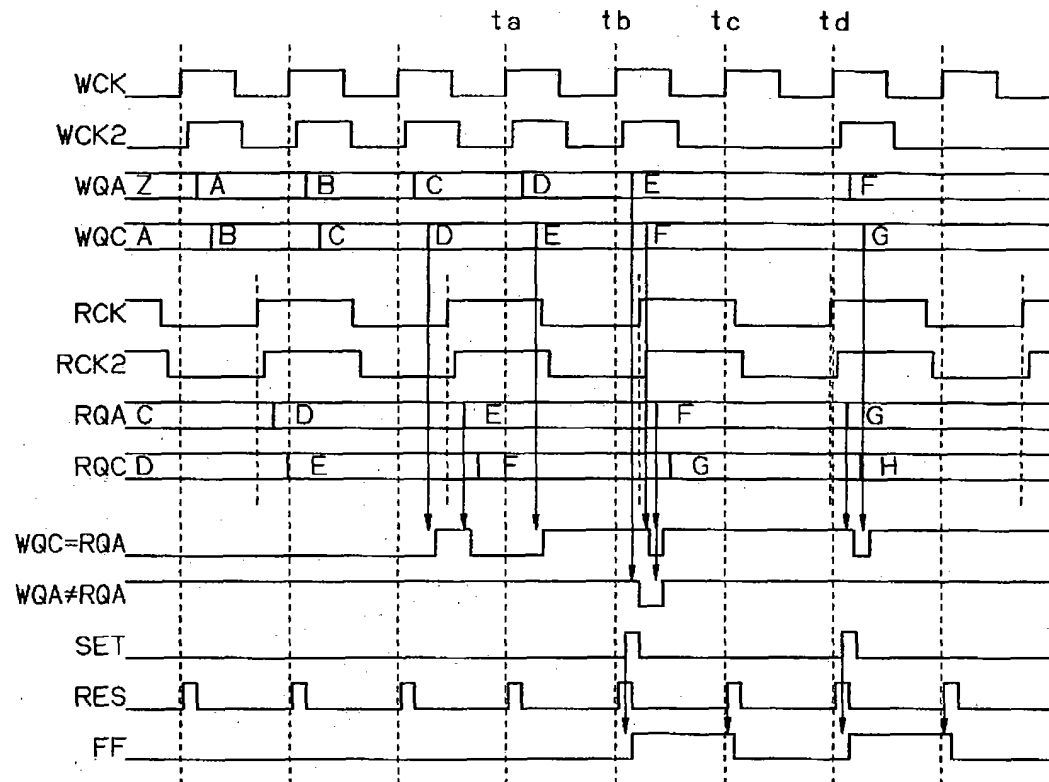
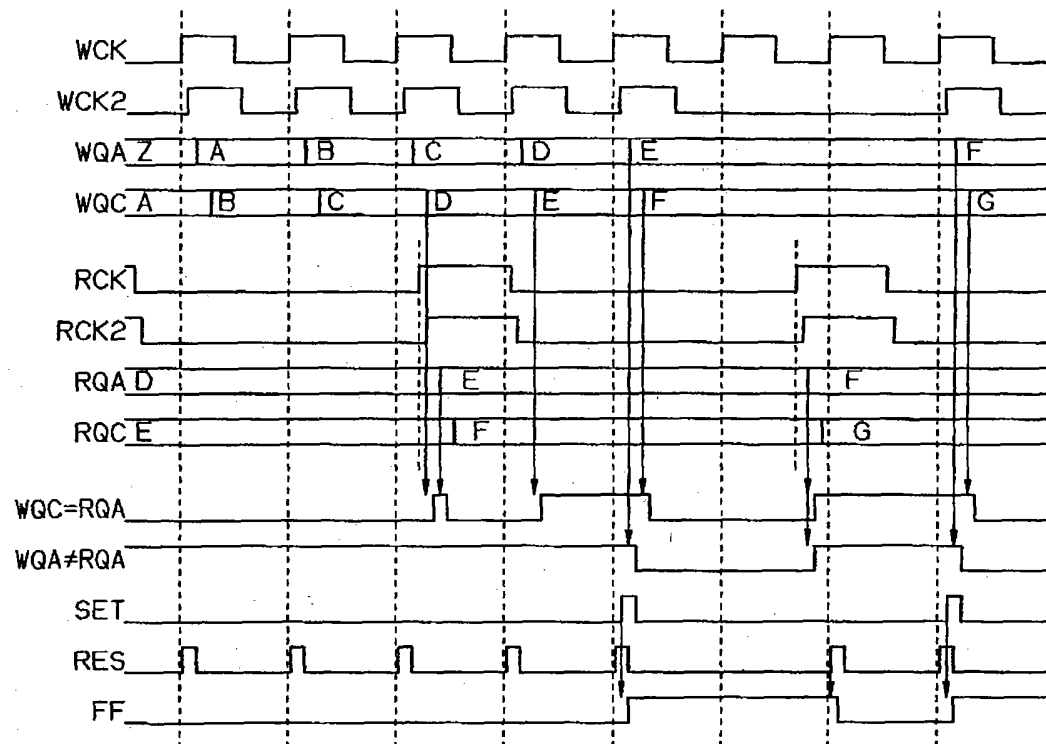


Fig.10



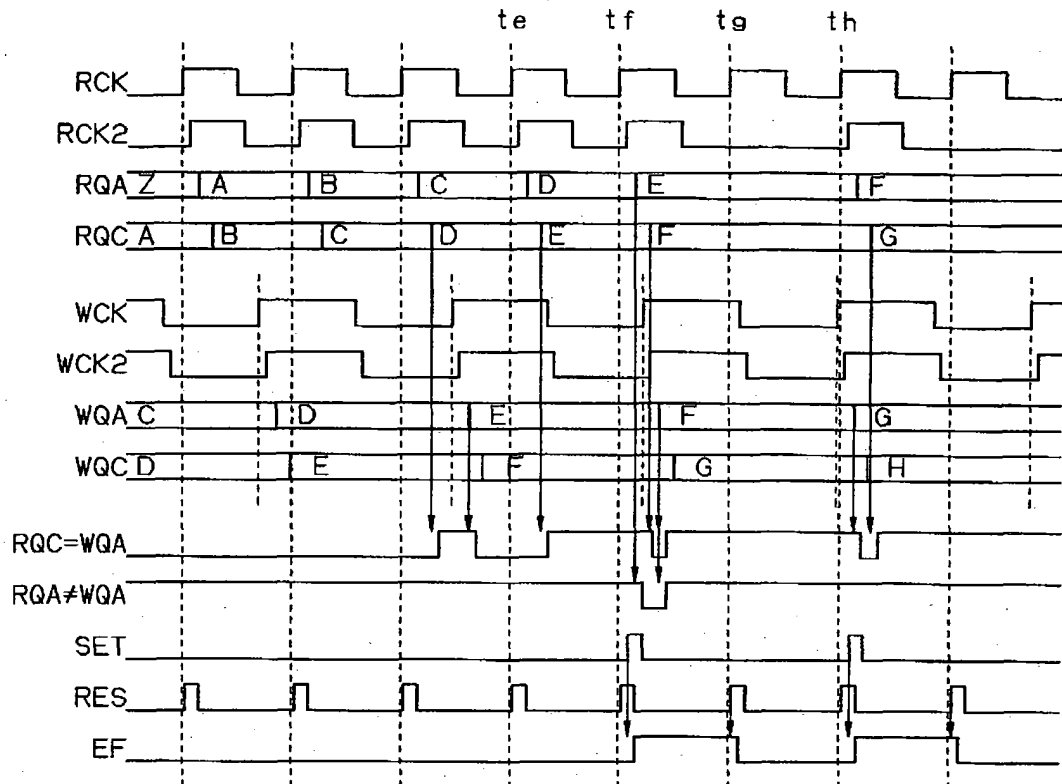
- WCK Write Clock
- WCK2 Write Clock Controlled by the Full Flag
- WQA Current Write Pointer
- WQC Next Write Pointer
- RCK Read Clock
- RCK2 Write Clock Controlled by the Empty Flag
- RQA Current Read Pointer
- RQC Next Read Pointer
- WQC=RQA Signal Indicating the Next Write Pointer and the Current Read Pointer Match
- WQA≠RQA Signal Indicating the Current Write Pointer and the Current Read Pointer Do Not Match
- SET Flag Set Signal of the Full Flag Output Circuit
- RES Flag Reset Signal of the Full Flag Output Circuit
- FF Full Flag

Fig.11



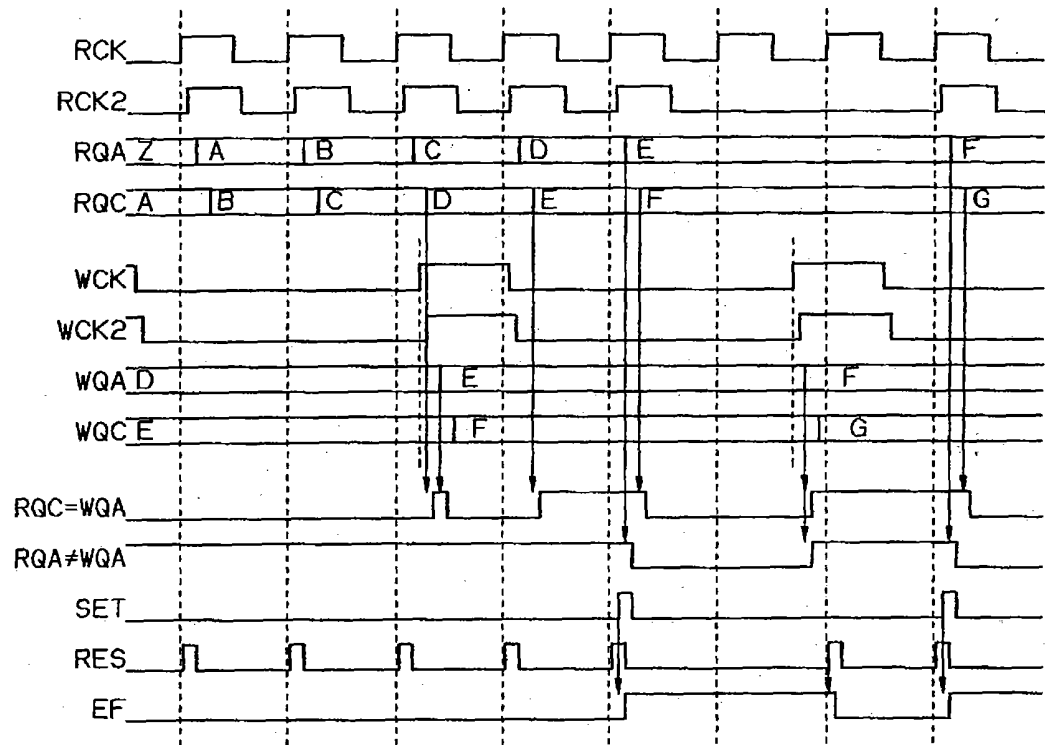
WCK Write Clock
 WCK2 Write Clock Controlled by the Full Flag
 WQA Current Write Pointer
 WQC Next Write Pointer
 RCK Read Clock
 RCK2 Write Clock Controlled by the Empty Flag
 RQA Current Read Pointer
 RQC Next Read Pointer
 WQC=RQA Signal Indicating the Next Write Pointer
 and the Current Read Pointer Match
 WQA≠RQA Signal Indicating the Current Write Pointer
 and the Current Read Pointer Do Not Match
 SET Flag Set Signal of the Full Flag Output Circuit
 RES Flag Reset Signal of the Full Flag Output Circuit
 FF Full Flag

Fig.12



- RCK Read Clock
- RCK2 Write Clock Controlled by the Empty Flag
- RQA Current Read Pointer
- RQC Next Read Pointer
- WCK Write Clock
- WCK2 Write Clock Controlled by the Full Flag
- WQA Current Write Pointer
- WQC Next Write Pointer
- RQC=WQA Signal Indicating the Next Read Pointer and the Current Write Pointer Match
- RQA≠WQA Signal Indicating the Current Read Pointer and the Current Write Pointer Do Not Match
- SET Flag Set Signal of the Empty Flag Output Circuit
- RES Flag Reset Signal of the Empty Flag Output Circuit
- EF Empty Flag

Fig.13



RCK Read Clock
 RCK2 Write Clock Controlled by the Empty Flag
 RQA Current Read Pointer
 RQC Next Read Pointer
 WCK Write Clock
 WCK2 Write Clock Controlled by the Full Flag
 WQA Current Write Pointer
 WQC Next Write Pointer
 RQC=WQA Signal Indicating the Next Read Pointer and the
 Current Write Pointer Match
 RQA≠WQA Signal Indicating the Current Read Pointer and
 the Current Write Pointer Do Not Match
 SET Flag Set Signal of the Empty Flag Output Circuit
 RES Flag Reset Signal of the Empty Flag Output Circuit
 EF Empty Flag

Fig.14

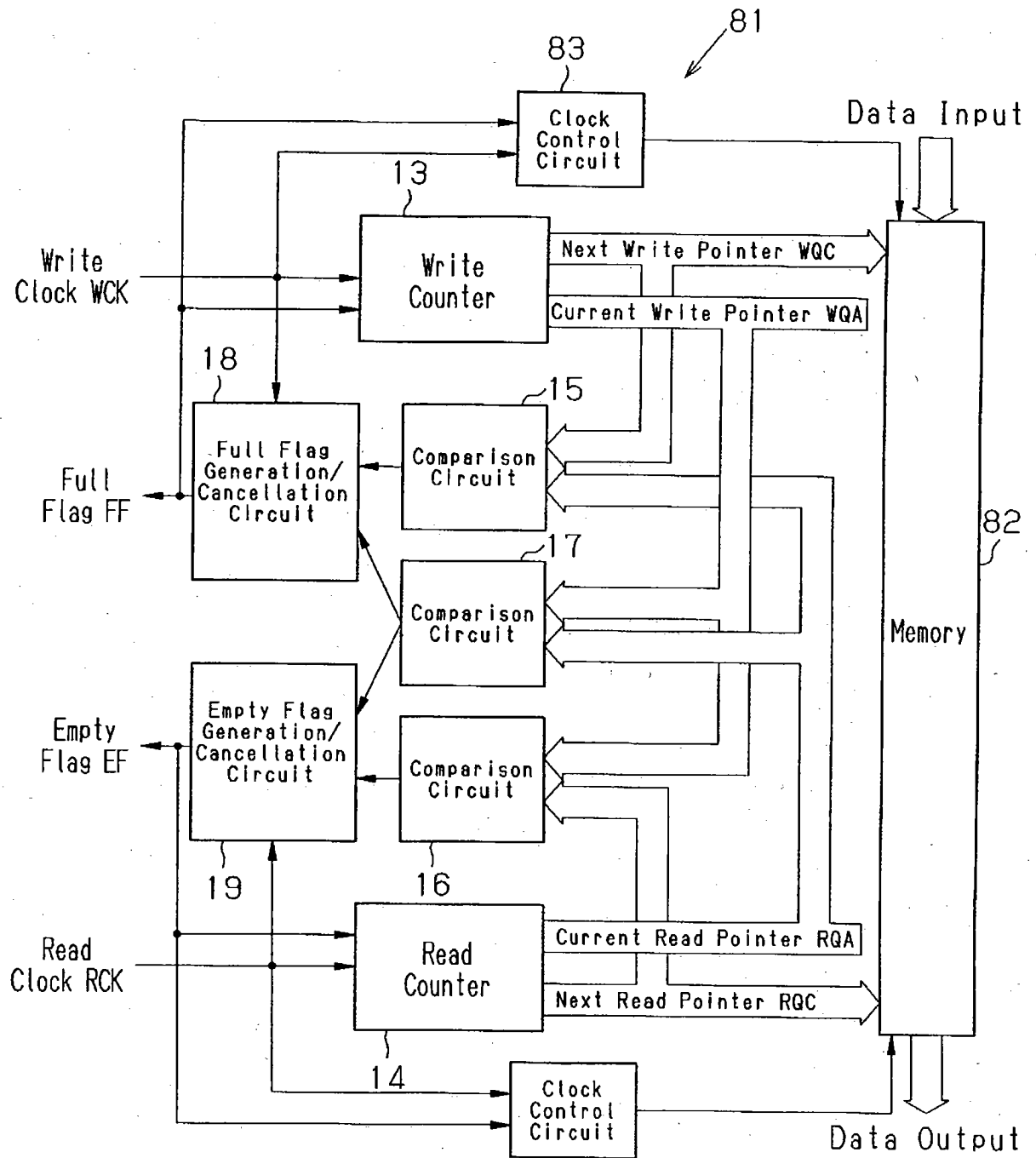


Fig.15

